Contents

Foreword ix

Some Unique Applications of Erythrocytes as Carrier Systems
H.O. Alpar and W.J. Irwin 1

In vitro Drug Release from Human Carrier Erythrocytes
H.C. Eichler, S. Gasic, B. Daum, S. Bacher and G. Steger 11

Desferrioxamine Loading of Red Cells for Transfusion
A. Zanella, F. Rossi, L. Sabbioneda, V. Russo, A. Brovelli, F. De Cal, S. Fargion, G. Fiorelli and G. Sirchia 17

Rheological Approach to Human Red Blood Cell Carriers Desferrioxamine Encapsulation
M. Jrade, M.C. Villereal, M. Boynard, J. Dufaux and C. Ropars 29

Optimisation of Desferrioxamine Loading in Red Blood Cells
C. Hurel, C. Ropars, G. Avenard and M. Chassaigne 37

Transfusion of Thalassemic Patients with Desferrioxamine Loaded Standard Red Blood Cell Units
G. Fiorelli, S. Fargion, A. Piperno, M.D. Cappellini, F. Rossi, L. Sabbioneda and A. Zanella 47

Approach to the Optimisation of Inositol Hexaphosphate Entrapment into Human Red Blood Cells
M.C. Villereal, C. Bailleul, M. Chassaigne and C. Ropars 55

The Nature and Kinetics of Red Cell Membrane Changes during the Osmotic Pulse Method of Incorporating Xenobiotics into Viable Red Blood Cells
R. Franco, R. Barker and M. Weiner 63

Isolated Heart as a Model to Study the Effects of the Decrease in Oxygen Hemoglobin Affinity
J.F. Baron, E. Vicaut, O. Stucker, M.C. Villereal, C. Ropars, B. Teisseire and M. Duvelleroy 73

P50 Shifts and Tissue Oxygen Pressure
R. Woodson, C. Hoerl and M. Borchardt 79

Modification of Cardiac Parameters in Piglets after Infusion of IHP-Loaded Red Blood Cells
M.C. Villereal, C. Bailleul, C. Ropars, C. Nicolau, D. Casset and R. Itti 81

In vivo Consequences of Rightward Shift of the Haemaglobin Dissociation Curve
B. Teisseire, C. Ropars, M. Ch. Villereal and C. Nicolau 89

Encapsulation of Glucose Oxidase in Mouse Erythrocytes: An Experimental Model of Oxidant-Induced Cytotoxicity and a means for Splenic Targeting of Carrier Erythrocytes
E. Zocchi, U. Benatti, L. Guida, M. Tonetti, G.L. Damonte and A. De Flora 95

On the Successful Use of Enzyme Loaded Erythrocyte Ghosts in the Treatment of Lead Intoxication in Animal and Clinical Experience
Alcira M. del C. Batlle 103

Arginase-Loaded Erythrocyte Carriers: their Fusion to Host Cells with Viral Fusogenic Proteins and Subcellular Localization of Arginase
C.A. Kruse, G.T. James, S.D. Cederbaum and E.B. Spector 113

Encapsulation of Rhodanese by Mouse Carrier Erythrocytes
J. Way, P. Leung, J. Leong-way, D. Sylvester, C. Tamulinas, R. Davis, C. Yao and B. Que 123

Comparative Tissue Distribution and Metabolim of Free Versus Erythrocyte-Encapsulated Adriamycin in the Mouse
U. Benatti, E. Zocchi, M. Tonetti, L. Guida and A. De Flora 129

Methotrexate Loaded Erythrocyte Carriers: Optimizing their Formation, their Characterization, and their Pharmacological Efficacy in Treating Hepatoma 129 Ascites Tumors in Mice
C.A. Kruse, G.T. James, C.L. Freehauf, and C.M. Williams 137

Antileishmanial Activity of Red-cell Encapsulated Drugs
J.D. Berman 145

IHP Dramatically Reduces *Babesia Microti* and *Plasmodium falciparum* Parasitemias: Observations of Fluorescent Red Cells and Fluorescent Vacuoles
G.M. Ihler and P-F. Tosi 153

Red Blood Cell Recognition by the Reticuloendotherlial System
J. Connor and A.J. Schroit 163

Phospholipid Organization as a Determinant of Red Cell Recognition by the Reticuloenodotherlial System
R.A. Schlegel, L. McEvoy, M. Weiser and P. Williamson 173

Subcutaneous Administration of [35-S]r-IL-2 in Mice Carrier-erythrocytes: Alteration of IL-2 Pharmacokinetics
J.R. DeLoach, K. Andrews, C.L. Sheffield and K. Koths 183

Erythrocytes as Carriers of Mycotoxins for Targeting to the Reticuloendotheial System
J.R. DeLoach, K. Andrews and A. Naqi 191

Preparation and Properties of Microcytic Carrier Erythrocytes from Sheep and Goats
J.R. DeLoach and R. Droleskey 199

The Use of Animal Models in the Encapsulation of Drugs in Erythrocytes
D.A. Lewis and J. Desai 213

Technical Aspects of Human Red Blood Cell Carriers Methodology
M. Jrade, C. Ropars, C. van Vooren and M. Chassaigne 223

Direct Measurement of Volume and Hemaglobin Concentration of Individual Resealed Erythrocytes Using Laser Light Scattering
R. Green, R.R. King, D.W. Jacobsen and K. Luce 233

Towards Cellular Drug Targeting and Controlled Release of Drugs by Magnetic Fields
U. Sprandel 243

Erythrocyte Membrane Changes Associated with Ligands which Bind to the Glycophorins
M.T. Makler, R.C. Piper and B. Coull 251